# FIRST QUARTER 2005 GROUNDWATER MONITORING REPORT

# FRANK'S STOP AND GO 610 WEST OLIVE AVENUE PORTERVILLE, CALIFORNIA

May 6, 2005

Prepared by

Consolidated Testing Laboratories, Inc. 603 East Worth Avenue Porterville, California 93257

Project 4451-05

#### First Quarter 2005 Groundwater Monitoring Report

#### Frank's Stop and Go 610 West Olive Avenue Porterville, California

The material and data in this report were prepared under the supervision and direction of the undersigned.

Consolidated Testing Laboratories, Inc.

Fred Mason Staff Geologist Wayne F. Harris

R.C.E. #15342 Exp. 3/31/07

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## 1 INTRODUCTION

Frank's Stop and Go is owned by Ali and Margarita Rahim. The site is situated within an area of commercial development on the northwest corner of west Olive Avenue and Villa Street in Porterville, Tulare County, California. The subject buildings are surrounded by concrete and asphalt pavement used for parking and drive-through access. The site location is described as assessors parcel number 252-293-031, and approximately 0.14 acres in the south ½ of the southwest ¼ of the southwest ¼ of section 26, Township 21 South, Range 27 East, Mount Diablo Baseline and Meridian.

#### 2 SITE ENVIRONMENTAL HISTORY

Records indicate that the three UST's removed were operated under Tulare County Division of Environmental Health Services (TCDEHS), permit numbers 5327001, 5327002, and 5327003, issued on July 31, 1996. In 1997 the TCDEHS issued an Unauthorized Leak Report.

November 20, 1997: Underground Tank Testers performed a leak test on the UST's at the site. Test results indicated no detectable leaks.

<u>December 28-29, 1998</u>: The tanks were removed by Franzen-Hill under permit numbers 98-259, 98-260, and 98-261. Soil samples collected by Franzen-Hill during the tank removal revealed gasoline-impacted soil at sampling locations S-2 and S-5.

November 23, 1999: CTL drilled preliminary testhole borings B-1 and B-2 to determine the vertical extent of hydrocarbon contamination in the soil and groundwater. Soil samples were collected at 5-foot depth intervals starting at 20-feet below ground surface to a maximum depth of 32-feet below ground surface. Fractional to minor concentrations of MTBE were detected in the soil samples collected from both borings but no TPH-gasoline or BTEX constituents were detected. No detectable concentrations of gasoline analytes or MTBE were reported from the water sample collected at 30-feet from B-1. The water sample collected from B-2 exhibited significantly elevated concentrations of gasoline analytes and MTBE.

<u>December 15, 1999</u>: The *Phase I Preliminary Site Investigation for Petroleum Fuel Constituents in Soil and Groundwater* was prepared.

October 20, 2000 and January 12, 2001: Monitoring wells MW-1, MW-2, and MW-3 were installed. Results for the investigation were incorporated in CTL's well completion report dated May 21, 2001.

January 15, 2003: CTL requested installation of an additional groundwater monitoring well MW-5 to further define the lateral extent of the plume of contamination. The TCDEHS approved installation of MW-5.

April 22, 2003: CTL submitted Well Completion Report, Groundwater Monitoring Results and Soil Vapor Extraction Pilot Study to the TCDEHS for review.

June 16, 2003: The TCDEHS approved the well completion report and CTL's recommendations to use an electric catalytic oxidizer presented in a report titled Well Completion Report, Groundwater Monitoring Results and Soil Vapor Extraction Pilot Study for the 2<sup>nd</sup> Quarter – 2003 dated April 22, 2003.

November 6, 2003: CTL submitted a *Groundwater Monitoring Report* to the TCDEHS dated October 23, 2003.

April 7, 2004: CTL submitted the Fourth Quarter 2003 Groundwater Monitoring Report to the TCDEHS dated March 5, 2004.

July 25, 2004: CTL submitted the Second Quarter 2004 Groundwater Monitoring Report to the TCDEHS dated July 23, 2004.

August 11, 2004: TCDEHS concurred with CTL's recommendations to install monitoring well MW-6.

<u>December 8, 2004</u>: CTL installed monitoring well MW-6 near the southwest corner of the convenience store building in the sidewalk.

January 17, 2005: CTL submitted the Fourth Quarter 2004 Groundwater Monitoring Report to the TCDEHS dated January 17, 2005.

February 1, 2005: TCDEHS reviewed and concurred with the January 17, 2005
quarterly report. Advise the county concerning progress of the thermal/catalytic oxidizer
installation. Continue quarterly groundwater monitoring.
Consolidated Testing Laboratories, Inc.

# 3 ENVIRONMENTAL SETTING

# 3.1 Geography and Geology

The City of Porterville is located near the southeastern boundary of the Great Valley Geomorphic Province immediately adjacent to the Sierra Nevada Mountain Range. The Great Valley is a geosyncline filled with downwarped sediments tens of thousands of feet deep. The northwest trending Great Valley extends from the San Emigdio Mountains south of Bakersfield to Redding in the north. To the east, the valley is bound by the Sierra Nevada Mountains and to the west by the Coast Ranges. The Great Valley is approximately 90-miles across at its widest point.

The City of Porterville is situated approximately four-miles west of the Sierra Nevada Mountain Range along the alluvial plain of the Great Valley. Frank's Stop and Go property is situated on an elevated portion of the outwash alluvial fan where the Tule River exits the Sierra Nevada foothills. The elevation at the property is approximately 445-feet above mean sea level; the topography is gently sloping to relatively flat. The surficial materials underlying the asphalt and concrete cover consist of alluvial deposits of moderately consolidated sand, gravel, and occasional horizons of silt and clay.

# 3.2 Regional and Local Groundwater Conditions

Groundwater occurs under both confined and unconfined conditions in the San Joaquin Valley. The degree of confinement varies widely because of the heterogeneity (variability) of the continental deposits. The body of fresh groundwater in the San Joaquin Valley is principally contained in unconsolidated continental deposits. These deposits are of Pliocene to Holocene Age (7-million to 11-thousand years before present time) and extend to depths ranging from less than 100 feet to more than 3500 feet. Along the eastern boundary of the valley at shallow depths, the base of fresh groundwater occurs in more consolidated marine and continental sedimentary rocks of Tertiary Age (1.8 to 65-million years before present time).

The activities associated with the first quarter 2005 groundwater monitoring program at the site consisted of: 1) Conducting groundwater level measurements from site monitoring wells (Figure 2); 2) Collecting and analyzing groundwater samples from the site monitoring wells; 3) Evaluating analytical laboratory data; and 4) Preparing this groundwater monitoring report. Sampling for the first quarter 2005 sampling event was conducted on February 21, 2005.

### 4.1 Soundings

The depth to groundwater level in monitoring wells MW-1, MW-2, MW-3, MW-4, MW-5, and MW-6 was measured from the top of wellhead casing. The average depth was 34.06 feet (Table 1). The level rose by 1.1 feet since the November 17, 2004 monitoring event.

#### 4.2 Groundwater Occurrence

The occurrence of groundwater beneath the site was assessed from water level measurements of site groundwater monitoring wells obtained on February 21, 2005, prior to purging or sampling any of these wells (Appendix A). Water level measurements were obtained with the use of a Solinst<sup>®</sup> interface meter, which is an electronic water level meter that is accurate to the nearest 0.01 of a foot, and is also capable of providing accurate floating petroleum hydrocarbon product level and thickness measurements. Groundwater level measurement data were used to evaluate the occurrence of groundwater beneath the site; and to determine the hydraulic gradient, seepage velocity and apparent groundwater flow direction beneath the site. The average elevation of groundwater beneath the site during the first quarter sampling event was 410.59 feet above mean sea level.

# 4.3 Groundwater Sampling

All site monitoring wells were sampled for constituents of concern. Prior to sampling, the monitoring wells were purged of at least three well casing volumes of water before collection of groundwater samples. Monitoring wells were purged with a Proactive Low Flow Monsoon® water pump until field parameters consisting of pH, electrical

conductivity (EC), temperature, and turbidity had stabilized. The purging pump was cleaned with Tri-sodium phosphate between each well purging. Field notes for purging and sampling of site monitoring wells are presented in Appendix A.

Casing volumes for the monitoring wells were calculated based on the well diameter, well sounding depth, and groundwater level measurements obtained before purging. After purging, the monitoring wells were sampled with the use of a dedicated Teflon Bailer attached to a new nylon string. The bailer was triple-rinsed with tri-sodium phosphate between each sampling event.

The collected samples were placed directly into appropriate sample bottles that were provided by the analytical laboratory. All sample bottles were labeled with the project ID, well number, date, time, and technician's name, and placed in an ice chest cooled with frozen gel packs to maintain the samples at a temperature of approximately 4° C. Following collection, the samples were delivered under chain-of-custody procedures to Castle Analytical Laboratory, which is accredited by the ELAP accreditation program of the California Department of Toxic Substances Control (DTSC).

# 4.4 Laboratory Analyses

Groundwater samples were transported to Castle Analytical Laboratory and were analyzed for total petroleum hydrocarbons as gasoline (TPH-G) by U.S. Environmental Protection Agency (U. S. EPA) Method 8015B after preparing the samples by U. S. EPA Method 5030; benzene, toluene, ethylbenzene, xylenes (BTEX) and methyl tert-butyl ether (MTBE) by U. S. EPA Method 8020 after preparing the samples by U. S. EPA Method 5030 (Appendix A). If MTBE was detected by U. S. EPA Method 8020, its presence in a sample was confirmed with the use of U. S. EPA Method 8260 (Appendix A).

# 4.5 Field and Laboratory Quality Control

Analysis of a travel blank and laboratory method blanks, and laboratory spikes were conducted as part of a quality control (QC) program designed to monitor the accuracy and precision of the sample handling and laboratory procedures. The travel blank and laboratory QC results were evaluated to assess the acceptability of analytical data, and are included with the certified analytical reports in Appendix A.

#### 5 FINDINGS

This section of the report presents the findings of the groundwater sampling activities conducted at the site during the current reporting period.

#### 5.1 Groundwater Occurrence

Depth to groundwater level measurements obtained on February 21, 2005 from site monitoring wells was converted to groundwater elevations with respect to mean sea level as shown on Table 1. The lowest and highest groundwater elevation was measured in monitoring wells MW-5 and MW-3 at 409.95 feet and 410.83 feet, respectively. Groundwater elevation data from site monitoring wells were used to construct a groundwater level contour map to assess the groundwater flow direction and gradient during the current reporting period (Figure 3). Evaluation of the groundwater contour map indicates that on February 21, 2005, groundwater beneath the site was flowing approximately North 69° West with an average hydraulic gradient of approximately 0.007-feet/foot.

The groundwater flow velocity was calculated using Darcy's Law:

 $v = Ki/n_e$ 

Where:

v = groundwater velocity

K = hydraulic conductivity

i = hydraulic gradient

 $n_e$  = effective porosity

porosity of 0.15, as suggested by the U. S. EPA for silty material (U. S. EPA, 1986)<sup>2</sup>; a groundwater flow velocity of approximately 4.81-ft/yr was calculated for groundwater flowing beneath the site. The relatively slow natural movement of groundwater beneath the site is due to the hydraulic characteristics of subsurface materials and the very flat groundwater gradient observed at the site.

Depth to groundwater data obtained from the site has also been used to prepare a composite hydrograph (Figure 5). The hydrograph indicates an overall groundwater elevation decline in all monitoring wells since the January 16, 2001 sampling event, however, the first quarter monitoring event shows a reverse in that trend.

# 5.2 Groundwater Analytical Results

The samples collected from the six groundwater monitoring wells were analyzed for the constituents of concern as outlined in subsection 4.4 of this report. No detectable levels of the constituents were found in any of the samples.

# 5.3 Field and Laboratory Quality Control (QC) Results

Results of the laboratory quality control evaluation indicate that:

- All analyses and extractions took place within holding time requirements.
- Surrogate sample recoveries were within acceptable limits.

U. S. EPA. 1986. Criteria For Identifying Areas of Vulnerable Hydrogeology Under RCRA, Guidance Manual for Hazardous Waste Land Treatment, Storage and Disposal Facilities.

#### 6 CONCLUSIONS

MTBE, TPH-g, and BTEX were not detected in water samples from any of the monitoring wells for the February 21, 2005 sampling event. The average groundwater elevation has declined since measurements began in site monitoring wells, although a rise of over one foot was noted during the last quarter. The average groundwater elevation is approximately 2.8 feet below that measured when groundwater monitoring activities began in January 2001. The last detected readings of hydrocarbon contaminants in the site monitoring well samples were during the second quarter of 2004.

# 7 RECOMMENDATIONS

CTL recommends that quarterly groundwater sampling in all monitoring wells continue on a quarterly basis for one more quarter. If all monitoring well samples continue to result in non-detect results, quarterly monitoring should be changed to semiannual during the duration of operation of the thermal catalytic oxidizer at the site.

#### LIMITATIONS

The services described in this report were performed consistent with generally accepted professional consulting principles and practices. No other warranty, express or implied, is made. These services were performed consistent with our agreement with our client. This report is solely for the use and information of our client unless otherwise noted. Any reliance on this report by a fourth party is at such party's sole risk.

Opinions and recommendations contained in this report apply to conditions existing when services were performed and are intended only for the client, purposes, locations, time frames, and project parameters indicated. We are not responsible for the impacts of any changes in environmental standards, practices, or regulations subsequent to performance of services. We do not warrant the accuracy of information supplied by others, or the use of segregated portions of this report.

The purpose of a geologic/hydrogeologic study is to reasonably characterize existing site conditions based on the geology/hydrogeology of the area. In performing such a study, it is understood that a balance must be struck between a reasonable inquiry into the site conditions and an exhaustive analysis of each conceivable environmental characteristic. The following paragraphs discuss the assumptions and parameters under which such an opinion is rendered.

No investigation is thorough enough to describe all geologic/ hydrogeologic conditions of interest at a given site. If conditions have not been identified during the study, such a finding should not therefore be construed as a guarantee of the absence of such conditions at the site, but rather as the result of the services performed within the scope, limitations, and cost of the work performed.

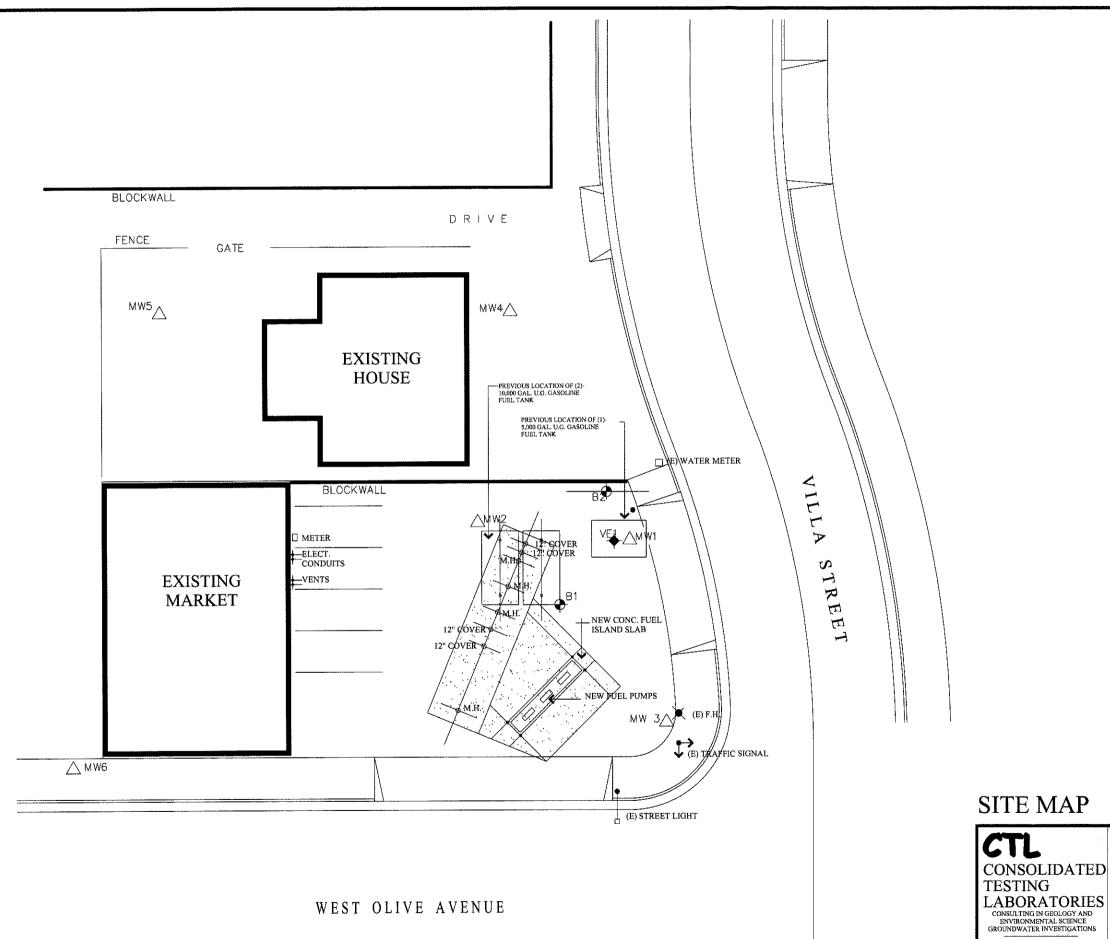
We are unable to report on or accurately predict events that may change the site conditions after the described services are performed, whether occurring naturally or caused by external forces. We assume no responsibility for conditions we were not authorized to evaluate, or conditions not generally recognized as predictable when services were performed.

Geologic/hydrogeologic conditions may exist at the site that cannot be identified solely by visual observation. Where subsurface exploratory work was performed, our professional opinions are based in part on interpretation of data from discrete sampling locations that may not represent actual conditions at unsampled locations.

# **FIGURES**



Figure 1. Vicinity Map: Frank's Stop and Go Market, 610 West Olive Avenue, Porterville, California.



#### **NOTES**

1. MW4, MW5, AND MW6 LOCATED OFFSITE ON ADJACENT PROPERTIES

#### LEGEND

LOCATION OF GROUNDWATER MONITORING WELLS INSTALLED 10-20-00, 1-12-01, 1-21-03 AND 1-22-03, AND 12-08-04

APPROXIMATE LOCATION OF TESTHOLE BORINGS DRILLED 11-23-99

LOCATION OF VAPOR EXTRACTION WELL INSTALLED 1-21-03



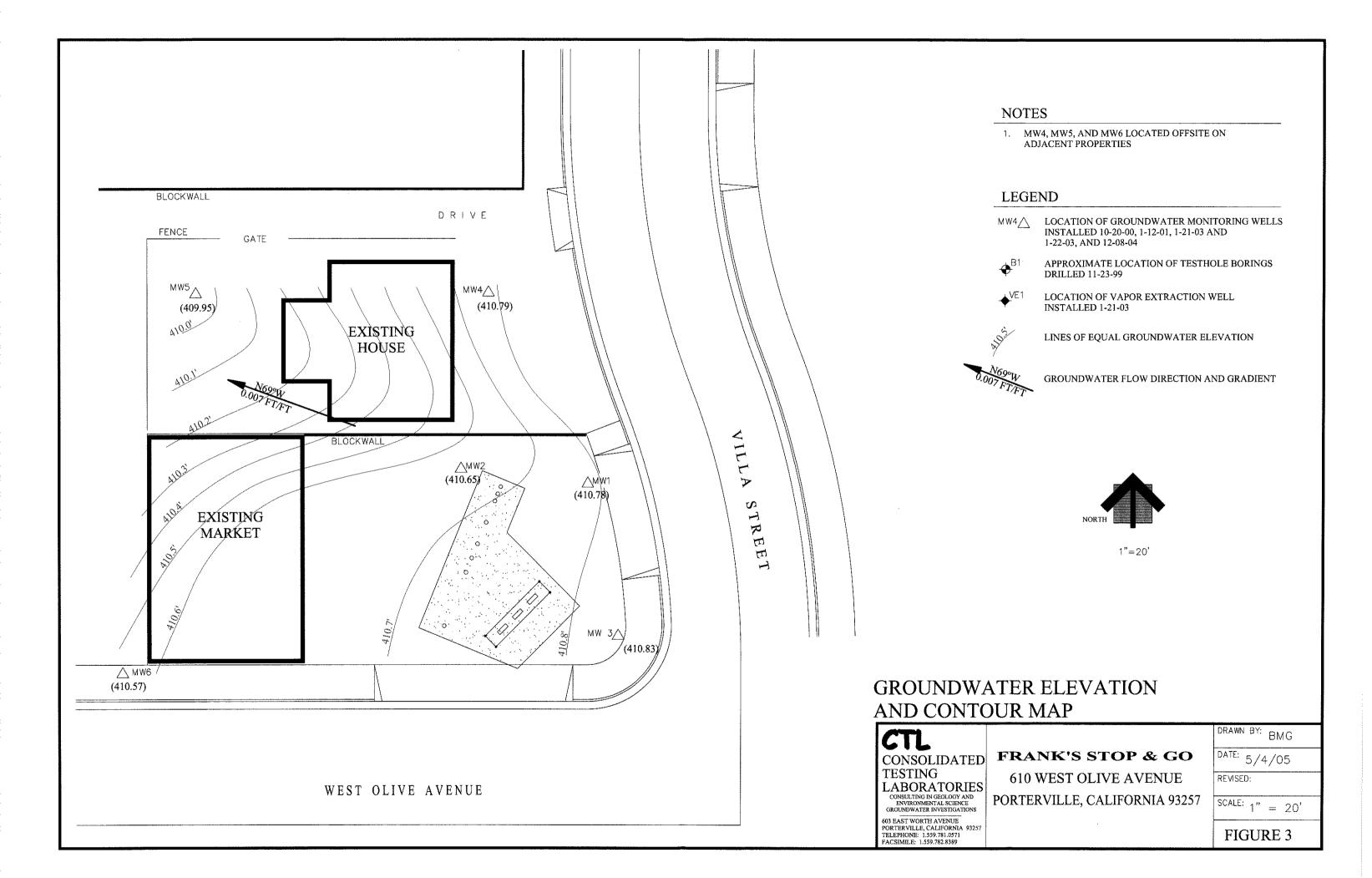


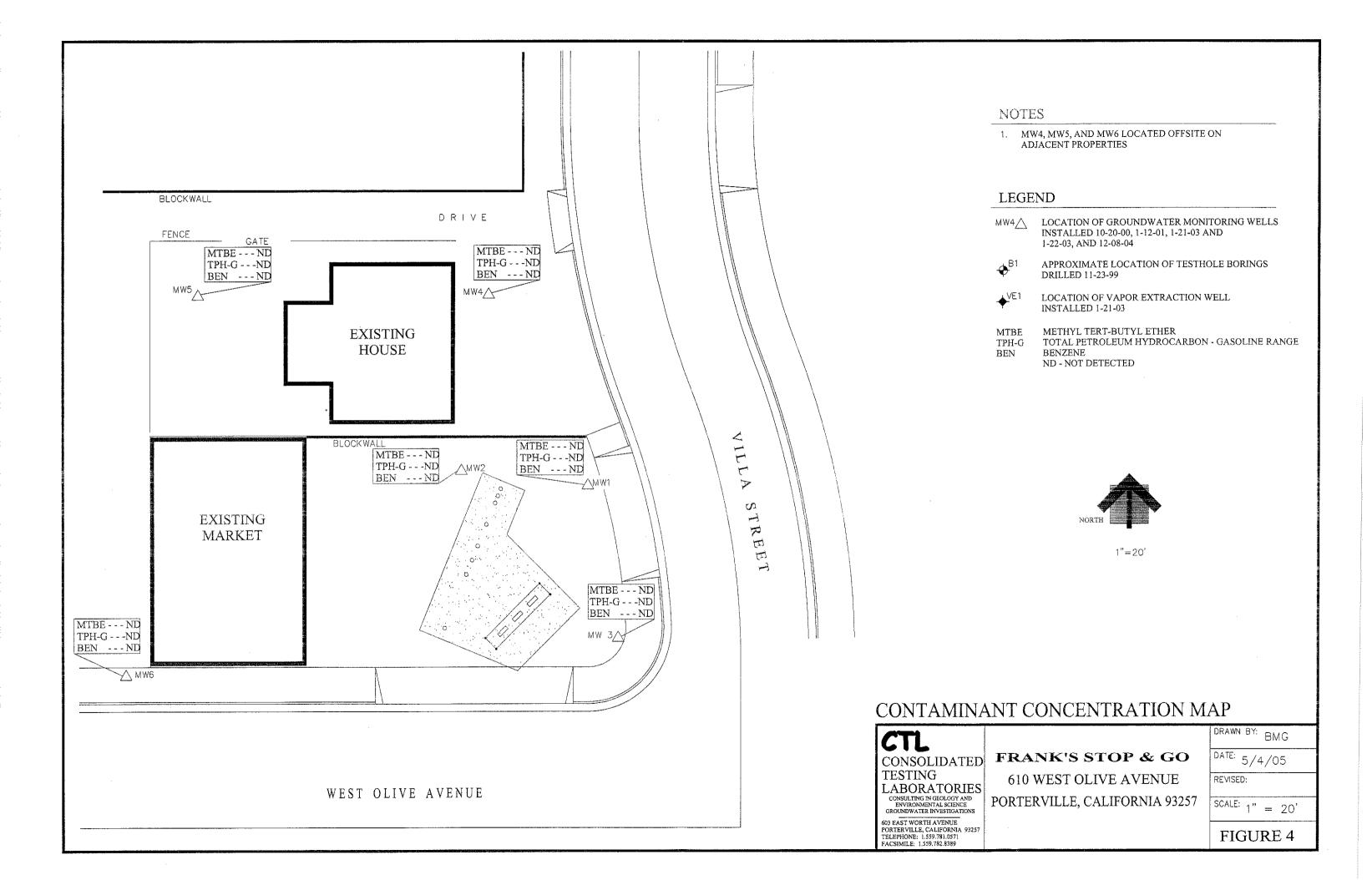
603 EAST WORTH AVENUE PORTERVILLE, CALIFORMA 93257 TELEPHONE: 1.559.781.0571 FACSIMILE: 1.559.782.8389

# FRANK'S STOP & GO

610 WEST OLIVE AVENUE PORTERVILLE, CALIFORNIA 93257

DRAWN BY: BMG DATE: 5/4/05 REVISED: SCALE: 1" = 20' FIGURE 2





MW-3 \*-MW-4 --\*-- MW-5 Soren Sough to man \*O. O. to m \*O.Teh \*O. JOH \*O.U. coron CO OG Frank's Stop & Go Comp Conten COJEN COURT coron cy Ogy co'lly Coren co. Jen COURT LONON. LO OBS 10/m Onen LO-JOH LOUR 408.00 411.50 411.00 410.50 410.00 409.50 409.00 408.50 414.00 412.50 412.00 415.00 414.50 413.50 413.00 Groundwater Elevation (ft. AMSL)

Composite Hydrograph

Figure 5.

# **TABLES**

# TABLE 1 MONITORING WELL SOUNDING DATA

#### Frank's Stop and Go 610 West Olive Avenue Porterville, California 93257

Well Number	Date Sounded	Depth to Water (Feet)	Relative Casing-Top Elevation (Ft AMSL)	Relative Water Table (Ft AMSL)	Flow Direction @ Gradient (ft/ft)
MW-1	1/16/2001	30.39	444.63	414.24	N77°W @ 0.0065
MW-1	2/6/2003	31.98	444.63	412.65	N77°W@0.007
MW-1	9/9/2003	33.25	444.63	411.38	S74°W@0.013
MW-1	1/6/2004	31.92	444.63	412.71	N87°W@0.036
MW-1	4/19/2004	32.87	444.63	411.76	S75°W@0.014
MW-1	7/28/2004	33.85	444.63	410.78	S76°W@0.012
MW-1	11/17/2004	34.90	444.63	409.73	S69°W@0.012
MW-1	2/21/2005	33.85	444.63	410.78	N69°W@0.007
		00.00	445.00	414 11	N77°W @ 0.0065
MW-2	1/16/2001	30.89	445.00	414.11	N77°W@0.007
MW-2	2/6/2003	32.47	445.00	412.53	•
MW-2	9/9/2003	33.74	445.00	411.26	S74°W@0.013
MW-2	1/6/2004	32.43	445.00	412.57	N87°W@0.036
MW-2	4/19/2004	33.36	445.00	411.64	S75°W@0.014
MW-2	7/28/2004	34.35	445.00	410.65	S76°W@0.012
MW-2	11/17/2004	35.37	445.00	409.63	S69°W@0.012
MW-2	2/21/2005	34.35	445.00	410.65	N69°W@0.007
MW-3	1/16/2001	30.31	444.65	414.34	N77°W @ 0.0065
MW-3	2/6/2003	31.90	444.65	412.75	N77°W@0.007
MW-3	9/9/2003	33.16	444.65	411.49	S74°W@0.013
MW-3	1/6/2004	31.85	444.65	412.80	N87°W@0.036
MW-3	4/19/2004	32.78	444.65	411.87	S75°W@0.014
MW-3	7/28/2004	33.75	444.65	410.90	S76°W@0.012
MW-3	11/17/2004	34.83	444.65	409.82	S69°W@0.012
MW-3	2/21/2005	33.82	444.65	410.83	N69°W@0.007
MW-4	2/6/2003	32.34	444.99	412.65	N77°W@0.007
MW-4	9/9/2003	33.60	444.99	411.39	S74°W@0.013
MW-4	1/6/2004	32.31	444.99	412.68	N87°W@0.036
MW-4	4/19/2004	33.25	444.99	411.74	S75°W@0.014
MW-4	7/28/2004	34.22	444.99	410.77	S76°W@0.012
MW-4	11/17/2004	35.20	444.99	409.79	S69°W@0.012
MW-4	2/21/2005	34.20	444,99	410.79	N69°W@0.007
	2,2,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	•			
MW-5	2/6/2003	32.32	444.40	412.08	N77°W@0.007
MW-5	9/9/2003	33.88	444.40	410.52	S74°W@0.013
MW-5	1/6/2004	33.55	444.40	410.85	N87°W@0.036
MW-5	4/19/2004	33.50	444.40	410.90	S75°W@0.014
MW-5	7/28/2004	34.50	444.40	409.90	S76°W@0.012
MW-5	11/17/2004	35.50	444.40	408.90	S69°W@0.012
MW-5	2/21/2005	34.45	444.40	409.95	N69°W@0.007
MW-6	2/21/2005	33.72	444.29	410.57	N69°W@0.007

MW-1 was drilled and completed on October 20, 2000.

MW-2 and MW-3 were drilled and completed on January 12, 2001.

MW-4 was drilled and completed on January 21, 2003.

MW-5 was drilled and completed on January 22, 2003.

MW-6 was drilled and completed on December 8, 2004.

# TABLE 2 ANALYTICAL RESULTS FOR GROUNDWATER SAMPLES

#### Frank's Stop and Go 610 West Olive Avenue Porterville, California 93257

Well Number	Sampling Date	TPH-g FPA 5030	MTBE EPA 8020	Benzene EPA 8020	Toluene EPA 8020	Ethylbenzene EPA 8020 µg/L	Xylenes EPA 8020
Number	Date	μg/L	μg/L PCL 0.5	μg/L PCL 0.5	μg/L PCL 0.5	PCL 0.5	μg/L PCL 0.5
	1/16/2001	PCL 50.0 19000.0	ND	ND	ND	300.0	970.0
MW-1		79.0	ND	ND	ND	1.2	2.8
MW-1	2/6/2003	410.0	ND	ND	ND	2.2	9.9
MW-1	9/9/2003	410.0 ND	ND	ND	ND	ND	ND
MW-1	1/6/2004	ND	ND	ND	1.3	0.6	3.8
MW-1	4/19/2004	ND	ND	ND	ND	ND	ND
MW-1	7/28/2004	ND	ND	ND	ND	ND	ND
MW-1	11/17/2004		ND	ND	ND	ND	ND
MW-1	2/21/2005	ND	ND	ND	14	110	
MW-2	1/16/2001	ND	ND	ND	3.3	ND	2.9
MW-2	2/6/2003	ND	ND	ND	ND	ND	ND
MW-2	9/9/2003	ND	ND	ND	ND	ND	ND
MW-2	1/6/2004	ND	ND	ND	ND	ND	0.8
MW-2	4/19/2004	ND	ND	ND	0.9	ND	3.0
MW-2	7/28/2004	ND	ND	ND	ND	ND	ND
MW-2	11/17/2004	ND	ND	ND	ND	ND	ND
MW-2	2/21/2005	ND	ND	ND	ND	ND	ND
MW-3	1/16/2001	ND	ND	ND	ND	ND	ND
MW-3	2/6/2003	ND	ND	ND	ND	ND	ND
MW-3	9/9/2003	ND	ND	ND	ND	ND	ND
MW-3	1/6/2004	ND	ND	ND	ND	ND	ND
MW-3	4/19/2004	ND	ND	ND	1.7	8.0	4.7
MW-3	7/28/2004	ND	ND	ND	ND	ND	ND
MW-3	11/17/2004		ND	ND	ND	ND	ND
MW-3	2/21/2005	ND	ND	ND	ND	ND	ND
MW-4	2/4/2003	ND	ND	ND	ND	ND	ND
MW-4	9/9/2003	ND	ND	ND	ND	ND	ND
MW-4	1/6/2004	ND	ND	ND	ND	ND	ND
MW-4	4/19/2004	ND	ND	ND	0.7	ND	2.6
MW-4	7/28/2004	ND	ND	ND	ND	ND	ND
MW-4	11/17/2004	ND	ND	ND	ND	ND	ND
MW-4	2/21/2005	ND	ND	ND	ND	ND	ND
MW-5	2/4/2003	ND	ND	ND	ND	ND	ND
MW-5	9/9/2003	ND	ND	ND	ND	ND	ND
MW-5	1/6/2004	ND	ND	ND	ND	ND	ND
MW-5	4/19/2004	ND	ND	ND	8.0	ND	2.9
MW-5	7/28/2004	ND	ND	ND	ND	ND	ND
MW-5	11/17/2004		ND	ND	ND	ND	ND
MW-5	2/21/2005	ND	ND	ND	ND	ND	ND .
MW-6	2/21/2005	ND_	ND	ND	ND	ND isted for each co	ND

ND Not detected or below the Practical Quantification Limit (PCL) listed for each constituent. MCLs for EPA 8020 in  $\mu$ g/L: benzene=1; toluene=150; ethylbenzene=700; total xylenes=1750. CAL-EPA February 1991 interim action level for MTBE: 35  $\mu$ g/L.

# APPENDIX A FIELD SAMPLING DATA SHEETS CHAIN-OF-CUSTODY RECORD CERTIFIED ANALYTICAL REPORTS

**PROJECT:** Frank's Stop and Go 610 West Olive Avenue

Porterville, California

File No. 4451-99

Date: 2/21/05

# GROUNDWATER WELL MEASUREMENTS

DATE	TIME	WELL NO.	DEPTH TO WATER BELOW TOP OF CASING
2/21/05	11:45 a.m.	MW-1	33.85
2/21/05	12:00 p.m.	MW-2	34.35
2/21/05	12:10 p.m.	MW-3	33.82
2/21/05	12:20 p.m.	MW-4	34.20
2/21/05	12:30p.m.	MW-5	34.45
2/21/05	12:45 p.m.	MW-6	33.72



# CONSOLIDATED TESTING LABORATORIES, INC.

Geotechnical and Environmental Drilling

Field Inspection

JOB NO.:	4451
DATE: & ~	- 25

#### MONITORING WELL PURGING FOR SAMPLING RECORD

	DJECT LOCATION: FRANKS STOP T	<u>60</u>		100-00		
SAI	VIFLER INAIVIE. 280 VER V					
	SAMPLE LOCATION	MW# /	MW# 2	MW# 3	MW# 4/	MW# 5
	SCREEN INTERVAL (Top/Bottom) (feet))				-	
<u>9</u>	CASING DIAMETER (In)	2 "	2"	2 11	2 "	2 10
S S N	DEPTH TO FREE PRODUCT		-			
PURGING	TOTAL DEPTH OF WELL (feet)	43.40	37.78	37.80	38.90	39-30
12	DEPTH TO WATER (from top of well casing)	33.85	34.35	33.82	34.20	34.45
PRIOR	FACTOR-2"=X.163 - 4"=X.653	9.55	3.43	3.98	4.7	4.85
PR:	VOLUME OF WATER IN WELL (gallons)	1.55	.55	.64	176	-79
ILLS	REMOVE SMALL SAMPLE			-	7.30	
	TIME AND DATE WATER LEVEL TAKEN	11:45/2-21	12:00 Post	12:10/2-31	12:20/7-31	12:30/2-27
I ALL	TURBIDITY	CLOUDY	clean	cloudy"	clear	cloudy
NO S	TEMPERATURE (°F) / (°C)	120,3			7	<del> </del>
;AP	pH READING	7.42	7.62	>.80	7.52	<u> </u>
VEC	ELECTRICAL CONDUCTIVITY	411	372	419	9405	364
REMOVE CAPS	THICKNESS OF STANDING PRODUCT (feet)			*****		- 06/
뿐	PETROLEUM SHEEN	-			************	■ogration <sub>ge</sub>
Ì	PETROLEUM ODOR				~:~	*********
	FREE PRODUCT BAILED (gallon)					Value-
	TIME AND DATE SAMPLED	3:00/2-31	9:30 /3 %/	1.42/9-91	4:00/2-04	3:30/3:4/
	DEPTH TO WATER (from top of well casing) (feet)	34,30	34.50	33.00	34.40	34,45
믭	FOUR VOLUMES OF WATER REMOVED (gallons)	6.2	2.2	2.56	3.04	3.16
SAMPLE	TEMPERATURE (°F) / (°C)	120.5	121.3	121.8	121.6	
٠,	pH READING	7, 36	7,40	7.54	7.61	7.18
Ī	ELECTRICAL CONDUCTIVITY	350	370	397	408	360
NOT	ES:				BARRE	LS ON SITE
					FULL	
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# CONSOLIDATED TESTING LABORATORIES, INC.

Soils and Materials Testing

Geotechnical and Environmental Drilling

Field Inspection

JOB NO.:_	445	(
DATE: ≥	- 21	05

#### MONITORING WELL PURGING FOR SAMPLING RECORD

PRO SAM	DJECT LOCATION: FRANKS STORT MPLER NAME: Leonar D	60				
	SAMPLE LOCATION	MW# 6	MW#	MW#	MW#	MW#
	SCREEN INTERVAL (Top/Bottom) (feet))		**************************************			
9	CASING DIAMETER (In)	2 "	MPD-100-100-100-100-100-100-100-100-100-10			2.
<u>S</u>	DEPTH TO FREE PRODUCT	<u> </u>				
TO PURGING	TOTAL DEPTH OF WELL (feet)	45.70				
70	DEPTH TO WATER (from top of well casing)	33.72				
OR	FACTOR-2"=X.163 - 4"=X.653	11.98				
PR:	VOLUME OF WATER IN WELL (gallons)	1.95				
EL S	REMOVE SMALL SAMPLE					
ON ALL WELLS PRIOR	TIME AND DATE WATER LEVEL TAKEN	12:45/2-26		1	1	1
M	TURBIDITY	CLOUDY			-muo	-
Ø .	TEMPERATURE (°F) / (°C)	120.8	7	1	1	1
AP?	pH READING	7.12	A STATE OF THE STA			
REMOVE CAPS	ELECTRICAL CONDUCTIVITY	360			i	
MO	THICKNESS OF STANDING PRODUCT (feet)					
뿐	PETROLEUM SHEEN	And American				
	PETROLEUM ODOR				W-10-1-1-1	
	FREE PRODUCT BAILED (gallon)	_			*************	
	TIME AND DATE SAMPLED	1:00 13-21	1	1	/	/
	DEPTH TO WATER (from top of well casing) (feet)	33.75				
P.E.	FOUR VOLUMES OF WATER REMOVED (gallons)	7.8				
SAMPLE	TEMPERATURE (°F) / (°C)	120.	I	1	1	1
7,	pH READING	7-15	***************************************			
ĺ	ELECTRICAL CONDUCTIVITY	365				
NOT	ES: MW-6 Bailed los Feet of sa	3 ~ D =		***************************************		LS ON SITE
				ARR DEPART DELIVE	URE /	EMPTY , O

								· · · · · · · · · · · · · · · · · · ·			<del>-</del>											<u></u>				
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custoby	ار اوال	AGA )	<del>/_</del>		<u> </u>	/1/4 P	P. Secalive		<u>o</u> r	У, У В ш	ī	<u> </u>	-15	) ~ X ⊝21€	-			72	e B	en	2	6	JE J	nove	10	Ż
CO.			/ •	581 b			Peceive		0 (	eш	1			etsO	1				<del></del>	1	:J€	ыqты	s 4	d bank	lngul	iэЯ
					3			<b>9</b>	<b>B</b>					1	<u>                                     </u>	+										
			<del>,,</del>	<u>`</u>		-	MIBE	<del></del>	× .		Z	\$	$\overline{\mathbf{x}}$	Ì					• •			-				
							900 (Eb		$\frac{1}{1}$	-			-		<u> </u>											
GHC.	<u> </u>		· ·	zissek <u>.</u>	וענפטנ: י	िन एग	하9 493		j					1	-	-		-	·						alfon	No.
RECORD JEST	ST	Siddes	h∍H Ö	77.1C sabicides	<del></del>		CAM Met					1		1		1	1		-				5		e Loc	Order No
	REQUES			seJ pin	sgiO D	peal				S.,		_		$\frac{1}{1}$	<u> </u>		<u> </u>						] = 1		Storage Location	Work
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- 1	ANALYSIS				GC/FID		291Q HRT 285 HRT		<u> </u>		-	-		-		<u> </u>									Only	
	ANA				GEVEID	0 55579	15H Oles			1	-	1	<u> </u>			-		-	,		<u> </u>	EIISS:	special		Use Or	No.:
CHAIN AND A		E (MODIFIED EPA 8015 GOFID)				DSAD HQT DSAD HQT	.						<u> </u>								DEMABIKS	500		Lab.	Lol N	
			səuə	lyX. ≥uiq	2 EPA 602		240 HYT	<u> </u>	<u>  -                                   </u>			<u> </u>		<u> </u> 	·		`									T.
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		٠ ٧			36/8020)	02 AS		1	9		8	0	00,	.	7	•						13.(5)				
INC. 93257		1016		911	ilure	Img	 	3:00		54%/	4:08	3.30	7.7				<u></u>		<u> </u>		<u> </u>	NIIM				
NES, II		Sampler Name (Print)		Project Name	Signat	Sampiling	5TAG	3-18-65	) 		1,	11	-									SPECIAL DETECTION LIMITS (Specify)				
IvaTol	82-0	Name ARA		Projec	Sampler Signa		<del>83-11</del> 0	1	1	 					-			 				DELL				
LABO	559) 7	pler >		,		Method Preserved	DH.			<u> </u>	1			-			<u>.</u>		<u> </u>	<u> </u>	<u> </u>	ECIM	. ,			
STING	FAX (	Sampler	5			Met Pres	507H	X	X	$\geq$	X	X	$\times$		· ·			<u> </u>			<u>                                     </u>	뭥		<del></del>		
TO TE	)571		l	1 60	$\beta$	×	SUUCE OIYES	<u> </u> 	<u>.                                      </u>	<u> </u>									<u> </u>	_				[9]		တ
CONSOLIDATED TESTING LABORATORIES, GOA Fast Worth Avenue, Porterville, CA	(559) 781-0571 FAX (559) 782-8389		Porterville,	and		Matrix	RETAW RIA		   			l V	X										Vac	CLP Level		S DAY
SNOO	(559)		rter	Stop	pling		# Contain SOIL	70	د ر	1 -8	1 78	76	73	<u> </u>	 	<u> </u>		<u> </u> 	<u> </u>	<u>.</u> 		, -v	a anac		<b>,</b>	SINES
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			Ave.,	Frank's Stop	er liel 1 durir mples	310		N N		1	<del>1</del>	<u> </u>	13		<u> </u>	<u>                                      </u>		1.	<u>                                     </u>	1		NIN	,			<u>(</u>
10:		ris	Ne V	,	I attest that the proper field sampling procedures were used during the collection of these samples		Cab 10 Number	1200 J. W		1	4	13	000)			[						SPECIAL LANDLING	ns	CI EXPEDITED 48 HOURS		
OLTS MCES		lanage Har	ddres. Oli	lumbe 9	s were	-		Ř	干.	   m	, ,	1 1/2	2	<u> </u>	<u>                                      </u>			1	1			.	CI 24 HOURS	EXPEDITED SEVENDAY	١٠٧x	OTHEN )
SEND RESULTS AND INVOICES TO:	•	Project Manager David Harris	Project Address 610 W. Olive	Project Number 4451–99	lest the		Sample 10 Flumber	J.	1.07.1	<u> </u>	į į	1 1			/	,					:		7.			
SEN AND		[ O	7.0j	Pro 44	at porcellos		ਲ ਕ ਹ	. *	JEZ J	2016		1000	2 2			1 ,	_			1		<u> </u>		1 Jan 1 1967	Turk Line	

# CASTLE ANALYTICAL LABORATORY

**Environmental Testing Services** 

2333 Shuttle Drive, Atwater, CA 95301

Phone: (209) 384-2930 Fax: (209) 384-1507

Certificate #2480

Consolidated Testing Laboratories, Inc

603 E. Worth Ave. Porterville, CA 93257 Attn: David Harris

Client Project ID: 4451-99

Client Project Name: Frank's Stop & Go

Reference Number: 7839 Sample Description: Water

Sample Prep/Analysis Method: EPA 5030/8015, 8020

Lab Numbers: 7839-1W, 2W, 3W, 4W, 5W

Sampled: 02-21-05 Received: 02-21-05 Extracted: 02-23-05

Analyzed: 02-23-05 Reported: 02-28-05

#### TOTAL PETROLEUM HYDROCARBONS - GASOLINE WITH BTEX DISTINCTION

ANALYTE	REPORTING LIMIT µg/L	SAMPLE ID MW-1 (µg/L)	SAMPLE ID MW-2 (µg/L)	SAMPLE ID MW-3 (µg/L)	SAMPLE ID MW-4 (µg/L)	SAMPLE ID MW-5 (µg/L)	
MTBE	0.50	ND	ND	ND	ND	ND	
BENZENE	0.50	ND	ND	ND	ND	ND	
TOLUENE	0.50	ND	ND	ND	ND	ND	
ETHYLBENZENE	0.50	ND	ND	ND	ND	ND	
TOTAL XYLENES	0.50	ND	ND	ND	ND	ND	
GASOLINE RANGE HYDROCARBONS	50	ND	ND	ND	ND	ND	
Report Limit Multiplication I	Factor:	1	1	1	1	1	

FID: 91.5% / PID: 92.7% FID: 86,1% / PID: 87.5% FID: 89.5% / PID: 90.3% FID: 87.3% / PID: 88.5% FID: 89.1% / PID: 90.2% Surrogate % Recovery: VAR-GC1 VAR-GC1 VAR-GC1 VAR-GC1

VAR-GC1 Instrument ID:

Analytes reported as ND were not detected or below the Practical Quantitation Limit Practical Quantitation Limit = Reporting Limit x Report Limit Multiplication Factor

APPROVED BY:

Laboratory Manager

APPROVED BY:

Jamés C. Phillips Laboratory Director

#### CASTLE ANALYTICAL LABORATORY

Environmental Testing Services 2333 Shuttle Drive, Atwater, CA 95301 Phone: (209) 384-2930 Certificate #2480 Fax: (209) 384-1507

Consolidated Testing Laboratories, Inc.

603 E. Worth Ave. Porterville, CA 93257 Attn: David Harris Client Project ID: 4451-99

Client Project Name: Frank's Stop & Go

Reference Number: 7839 Sample Description: Water

Sample Prep/Analysis Method: EPA 5030/8015, 8020

Lab Numbers: 7839-6W

Sampled: 02-21-05 Received: 02-21-05 Extracted: 02-23-05 Analyzed: 02-23-05

Reported: 02-28-05

# TOTAL PETROLEUM HYDROCARBONS - GASOLINE WITH BTEX DISTINCTION

ANALYTE	REPORTING LIMIT	SAMPLE ID MW-6 (µg/L)	
MTBE	0.50	ND	
BENZENE	0.50	ND	
TOLUENE	0.50	ND	
ETHYLBENZENE	0.50	ND	
TOTAL XYLENES	0.50	ND	
GASOLINE RANGE HYDROCARBONS	50	ND	
Report Limit Multiplication Fa	actor:	1	

Surrogate % Recovery:	FID: 88.3% / PID: 89.3%
Instrument ID:	VAR-GC1

Analytes reported as ND were not detected or below the Practical Quantitation Limit Practical Quantitation Limit = Reporting Limit x Report Limit Multiplication Factor

APPROVED BY:

Laboratory Manager

APPROVED BY:

James C. Phillips Laboratory Director

#### CASTLE ANALYTICAL LABORATORY

Environmental Testing Services

2333 Shuttle Drive, Atwater, CA 95301

Phone: (209) 384-2930 Fax: (209) 384-1507

Certificate # 2480

Consolidated Testing Laboratories, Inc

603 E. Worth Ave. Porterville, CA 93257 Attn: David Harris Client Project ID: 4451-99

Client Project Name: Frank's Stop & Go

Reference Number: 7839 Sample Description: Water Analyst: Jim Phillips Method: EPA 5030/8015M,8020

Instrument ID: Var-GC1 Extracted: 02-23-05 Analyzed: 02-23-05 Reported: 02-28-05

#### **QUALITY CONTROL DATA REPORT**

ANALYTE	Gasoline	MTBE	Benzene	Toluene	Ethyl Benzene	Total Xylenes
Spike Concentration:	110	2.16	1.34	7.58	1.82	8.88
Units:	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
LCS Batch #:	VW-2235	VW-2235	VW-2235	VW-2235	VW-2235	VW-2235
LCS % Recovery: Surrogate Recovery:	97.4% 89.3%	99.5% 87.9%	103% 87.9%	93.5% 87.9%	96.5% 87.9%	95.0% 87.9%
Control Limits:	70-130 %	70-130 %	70-130 %	70-130 %	70-130 %	70-130 %
MS/MSD Batch #:	VW-2235	VW-2235	VW-2235	VW-2235	VW-2235	VW-2235
Spike Concentration:	110	2.16	1.34	7.58	1.82	8.88
MS % Recovery: Surrogate Recovery:	95.5% 90.4%	91.8% 88.8%	98.1% 88.8%	94.9% 88.8%	101% 88.8%	99.9% 88.8%
MSD % Recovery: Surrogate Recovery:	96.9% 90.6%	92.0% 89.0%	100% 89.0%	95.2% 89.0%	98.2% 89.0%	97.6% 89.0%
Relative % Difference:	1.49%	0.150%	1.94%	0.212%	2.41%	2.33%
Method Blank : Surrogate Recovery:	ND 89.5%	ND 90.3%	ND 90.3%	<b>N</b> D 90.3%	<b>N</b> D 90.3%	ND 90.3%

The LCS (Laboratory Check Sample) is a control sample of known, interferent free matrix that is fortified with representative analytes and analyzed using the same reagents, preparation and analytical methods employed for the samples. The LCS % recovery is used for validation of sample batch results. Due to matrix effects, the QC limits and recoveries for MS/MSD's are advisory only and are not used to accept or reject batch results.

APPROVED BY:

Clari J. Cone Laboratory Manager APPROVED BY:

James C. Phillips Laboratory Director